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AUTHOR Stasz, Bird B.; And Others
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ABSTRACT

Reading courses at the college level strive to improve advanced reading proficiency as well as basic reading skills. The use of a problem-solving model is one way to provide students with an organized approach to comprehending, investigating, and resolving problem statements. The problem-solving model begins with a problem statement provided by the instructor that involves a topic--preferably controversial--and that can arouse student interest. The next phase of the model is "personalization," during which students explore what they already know about the topic and how they feel about it. In the next step, the design phase of the model, students determine what additional information is needed and then develop a specific research plan to obtain that information through consideration of key concepts and key questions. In the "read" phase of the model, students engage in meaningful and purposeful reading to gather information and fit it into their research design. The final phase of the model is evaluation, which requires students to practice the art of critical analysis as they manage and manipulate their data and information to reach a final solution to the problem statement. Through this process students' self-confidence grows and interest in achievement develops. As a result, reading and critical thinking proficiencies are practiced and enhanced. (HOD)

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A Problem-Solving Model for Teaching Reading Proficiency

Bird B. Stasz

Audrey S. Furukawa

Barbara B. Speetjens

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A problem-solving model for teaching reading proficiency

Bird B. Stasz, Audrey S. Furukawa and Barbara B. Speetjens
University of Hawaii at Hilo
Hilo, Hawaii

INTRODUCTION

Reading courses at the college level strive to improve advanced reading proficiency as well as basic reading skills. However, the exact nature of those aspects of reading that are critical for proficiency at the advanced level are elusive, and teaching methods which successfully foster improvement in college level reading are difficult to define.

A problem-solving model for use in college level reading courses is described in this article. While the ostensible goal is to familiarize students with an organized approach to comprehending, investigating, and resolving problem statements, the underlying and much more important goal is to improve advanced reading proficiency. An implicit assumption in our development and use of this model is that advanced reading proficiency and critical thinking (in an academic sense) are thoroughly interwoven and must be fostered simultaneously. Also, we are convinced from our own teaching experiences that students who enroll in reading improvement courses have usually attained very limited academic success and are therefore almost totally lacking in the confidence needed to develop the desire and ability to read proficiently and think critically.

The problem-solving model presented herein is designed to provide students with a reasonably straightforward, stepwise approach to a typical type of academic exercise that would otherwise be overwhelming. The model provides the means for students to achieve success in the apparent task, i.e. solving the problem. Student self-confidence grows and interest in achievement develops, and this leads to active participation by the students. As a result, reading and critical thinking proficiencies are practiced and enhanced. The model is intended as a general guide and flexibility is encouraged.

THE PROBLEM-SOLVING MODEL

The Problem Statement

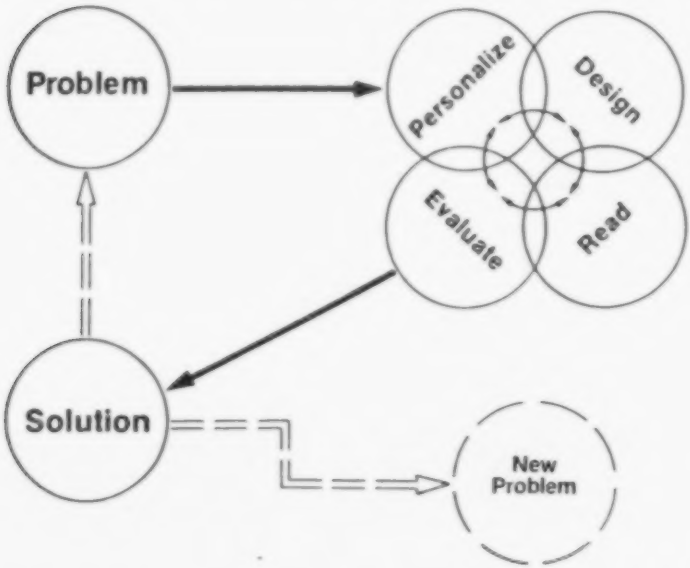
The problem-solving model (Fig. 1) begins with a problem statement provided by the instructor. The problem statement should involve a topic, preferably controversial, that has the potential to arouse student interest. For example, the authors have written problem statements about such diverse topics as a famous ax murderess, the value of a university education, and the socializing effects of fairy tales on children. The problem statement should be very specific and usually asks a question, makes a statement, or poses a hypothesis. The first task for students is to determine whether inductive or evaluative reasoning is required to address the problem statement. Inductive reasoning requires "proving the validity or probability of the hypothesis", whereas evaluative reasoning requires "judging the soundness or appropriateness of an idea, action or product" (Zimbardo, 1980, pp. 121-122).

For example, the problem statement: Lizzie Bordon murdered her parents in cold blood with an ax in Fall River, Massachusetts on the morning of August 10, 1892, requires inductive reasoning because the

statement either is, or is not, true, and the available evidence must be evaluated to prove or disprove it. A problem statement that requires evaluative reasoning is: the United States should send its surplus food to the starving people of the world. Whether the proposed course of action is desirable or not can be argued either way, but the statement is intrinsically neither true nor false.

To build interest in the problem statement, we have found it useful to provide background about the topic when it is first introduced to the class. For example, for the Lizzie Bordon problem statement, providing information about the woman, the crime, and the social climate of the city at that time is helpful. We then explain the difference between inductive and evaluative reasoning and ask the class to discuss and decide which type of reasoning is required by the problem statement at hand.

Figure 1
Problem-Solving Model for Teaching Reading Proficiency



Personalization

The next phase of the model is "personalization." In personalization students explore what they already know about the topic and how they feel about it. The instructor provides activities that encourage students to think about and examine the problem from their own points of view. The authors have used a wide variety of techniques.

One technique, guided visualizations, is particularly effective in helping students to recreate their own experiences concerning a topic. For example, a guided visualization in which students remember specific events from their elementary and secondary school years is a good way for them to explore how they feel about education in general.

An activity such as answering true/false questions about a topic also helps students to discover what they know and how they feel about the problem statement. For example, answering true/false questions about the topic of fairy tales helps students explore the problem statement: fairy tales have a negative effect on the socialization of children.

Brainstorming is another technique that facilitates the personalization process. One approach to the problem statement: Lizzie Bordon murdered her parents in cold blood with an ax in Fall River, Massachusetts, on the morning of August 10, 1892, is to have students brainstorm in ten minutes all the possible motives for murder and to then discuss those that may apply to the Lizzie Bordon case.

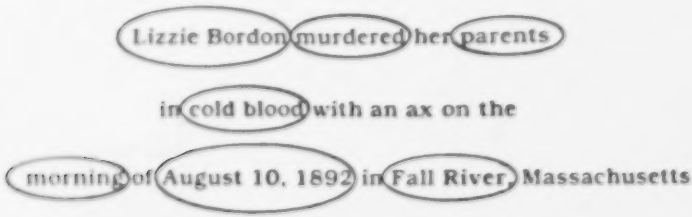
The personalization phase of the model is particularly important for three reasons: (a) students learn to use themselves as a resource by determining what they already know and feel about a topic (b) students become more self-motivated and responsible for their own learning because they begin to adopt the project as their own and (c) students learn to explore the cognitive and affective aspects of a problem by analyzing the topic in general and the problem statement in particular.

Design

The information developed in the personalization phase and provided by the instructor as background is usually considerable but not enough to resolve the problem statement. In the next step, the design phase of the model, students determine what additional information is needed and then develop a specific research plan to obtain that information. To assist students in the design phase, the authors use two activities called "key concepts" and "key questions" which continue the analysis of the problem statement, but with the emphasis being placed on determining the specific information that remains to be obtained.

To find the key concepts, students read the problem statement and circle the essential words and phrases. For example, a problem statement might look like this:

Figure 2
Key Concepts



To develop key questions, students then apply, *who, what, where, when, why,* and *how* to the circled words and phrases. For example: Who was Lizzie Bordon? Who were her parents? What were they like? How were they murdered? Students then decide which questions will need research, which questions can be answered without further research, and which questions are irrelevant, keeping in mind the nature of the problem statement and whether the approach required is inductive or evaluative.

The research design identifies specific resources, methods of finding specific resources, and methods of utilizing these resources to obtain

the desired information. The research design should provide an organized, yet flexible, approach to finding specific information so that students know how and where to look, as well as what to look for, without becoming "lost". The authors often provide key resources, especially if these resources are difficult to locate or obtain, or if the students are not yet able to find sources of information on their own. Handouts, selected reading lists, and bibliographies of available library materials are also useful for demonstrating the types and range of materials that are worth considering.

Readi

In this phase of the model students engage in meaningful and purposeful reading to gather information and fit it into their research design. For example, if the design includes key questions, then students read to locate the answers to those questions. As students read, they may generate new questions and new ideas which require further research. Students are not only practicing basic reading skills, but are also reading for information and processing ideas.

Continual interaction between the instructor and the student is essential in this phase. As students read and gather information, the instructor should ask probing questions, assist in locating additional information, and point out possible new sources. The instructor must encourage students to undertake in-depth inquiry leading to a substantive answer, rather than a superficial interpretation resulting in a quick response. We sometimes require students to use their information and conclusions in a series of in-class debates between teams. This fosters a sense of competition, encourages enthusiastic preparation, and rewards those who have prepared well.

The significance of this phase of the model is that students begin to read for ideas and that comprehension becomes a knowledge-building activity. There are four important outcomes of this phase: (a) students learn how to locate information and read for ideas; (b) students learn how to look for supporting evidence; (c) students are encouraged to sustain themselves in print for long periods of time; and (d) students practice higher level reading comprehension skills.

Evaluation

The next phase of the model is evaluation. Evaluation requires students to practice the art of critical analysis as they manage and manipulate their data and information to reach a final solution to the problem statement. This is often the most difficult phase for students because the skills required to do an in-depth critical analysis are unfamiliar to them.

The instructor provides guidance and activities that will help students to learn how to look for patterns in their information, make inferences, generate new ideas, and explore alternatives and consequences. The authors have found that graphic activities, such as mapping or charting, help students to *see* patterns and discrepancies as they analyze information. Extensive class discussion, argumentation, and debate are also good activities to engage students in the evaluative process. The process of gathering and evaluating information continues until a final solution is reached.

In the case of an inductive hypothesis the strength of the final conclusion is judged by how much and how well the evidence supports it. In the case of an evaluative hypothesis the appropriateness or soundness of the conclusion is judged by the quality of the information and the logic with which it is used.

Students can work back and forth between each of the phases as well as through the process several times before a solution is reached. To bring closure to the model the student returns to the problem statement with his solution. Either the solution is satisfactory and the process is concluded, or the research has generated a new problem and the process continues, following the same procedures.

Use of the model

The model is intended for use in any college reading course. The organizational format is flexible enough to accommodate almost any topic and instructional style. Instructors using this model can lecture, work individually, or in small groups. The fact that the model allows such instructional variety is particularly appealing.

The model also lends itself to the development of curriculum materials. For example, the authors have written and are presently using a series of learning packets that are based on the model. Each packet is self-contained and includes a problem statement, various activity worksheets that correspond to each of the phases of the model, a reading list and/or reprints that enable students to do the research, and teaching suggestions and instructions. The packets range in topics from literature to politics and in completion time from a week to a month. The major advantage of using a range of topics for the learning packets is that it gives students an opportunity to read and think in a wide number of disciplines.

Summary

In conclusion, the biggest beneficiaries of this problem-solving reading model are the students themselves. By participating in an instructional model such as this one, students experience the following:

1. They learn how to use themselves and their knowledge as a resource.
2. They are motivated to read from a wide variety of sources in order to solve a problem.
3. They learn how to select important data from their readings and apply it to a problem statement.
4. They learn how to process, evaluate, analyze, and integrate information.
5. They learn how to generate new ideas by developing solutions and exploring possible alternatives to the problem statement.
6. They learn to evaluate the validity of ideas and the clarity of their thinking.
7. They experience a wholistic approach to learning.

Reference

Zimbardo, P. G. (1980). *Essentials and psychology of life*. Glenview, IL: Scott Foresman.